

Notice of Allowability

Application No.

09/888,006

Examiner

Samir A. Ahmed

Applicant(s)

SCHULER ET AL.

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 9/29/04.
2. ☒ The allowed claim(s) is/are 1-4, 6-8, 10-16 (now renumbered 1-14 for issue).
3. ☒ The drawings filed on 6/22/01 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

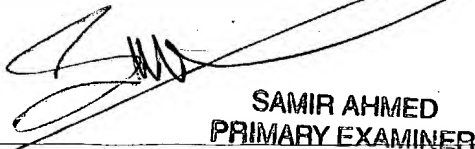
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 12/21/04.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


SAMIR AHMED
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for the following Examiner's amendment was given in a telephone interview with Jerome R. Drouillard (reg. # 28,008) on 12/21/04, acting as applicant's representative, authorized the following amendment:

These claims replace all previous claims

1. (Currently Amended) A method of determining the contour of a substantially flat workpiece (20, 30, 50), comprising:

applying one or more reference markers to the workpiece (20, 30, 50) and to a workpiece support used in cooperation with the workpiece;

obtaining at least two overlapping digital photographs (35, 55a-d) of the workpiece (20, 30, 50) from different perspectives;

photogrammetrically processing the photographs (35, 55a-d) to produce a true-to-scale overall image (56) of the workpiece (20, 30, 50); and

determining the contour of the workpiece (20, 30, 50) from the true-to-scale overall image (56).

2. (Original) The method according to claim 1, wherein said step of applying the reference markers comprises the step of applying a plurality of length scales (43) distributed over a surface of the workpiece.

3. (Original) The method according to claim 1, wherein said step of applying the reference markers comprises the step of applying a plurality of position-markers (41, 51) distributed over a surface of the workpiece.

4. (Original) The method according to claim 1, wherein the workpiece (20, 30, 50) are sheet metal parts of an automobile.

Claim 5 (Cancelled).

6. (Currently Amended) The method according to claim 1, wherein the reference markers are plurality of length scales (43) or position-markers (41, 51) distributed over a surface of the workpiece.

7. (Currently Amended) The method according to claim 1, wherein the workpiece support is dark in color in comparison with the workpiece (20, 30, 50).

8. (Original) The method according to claim 1, further comprising the step of applying a contrasting coating to the workpiece (20, 30, 50).

Claim 9 (Cancelled).

10. (Original) The method according to claim 1, wherein said step of obtaining the overlapping digital photographs (35, 55a-d) comprises the steps of:

using a digital camera to record the overlapping digital photographs (35, 55a-d), the digital camera having; and

recording the overlapping digital photographs (35, 55a-d) from perspectives with substantially mutually perpendicularly disposed optical axes of the digital camera (21).

11. (Original) The method according to claim 1, further comprising the step of rectifying each of the overlapping digital photographs (35, 55a-d) such that image planes of the photographs and workpiece are transformed onto each other.

12. (Original) The method according to claim 1, wherein the contour of the workpiece (20, 30, 50) is a polygon.

13. (Currently Amended) A method of establishing a form die for cutting sheet metal parts, comprising:

- producing a prototype of the form die;
- cutting a test sheet with the prototype form die;
- determining the contour of the test sheet using the method of claim 1;
- comparing the contour of the test sheet to a reference contour; and
- adjusting the shape of a subsequent prototype form die based on the comparison of the test sheet contour to the reference contour.

14. (Currently Amended) An apparatus for determining the contour of a substantially flat workpiece (20, 30, 50), comprising:

- one or more reference markers for application to the workpiece;
- a workpiece support having at least some of said references disposed thereon;
- a digital camera (21) for recording digital, electronically stored photographs (35, 55a-d) of the workpiece (20, 30, 50); and
- a data processing unit for photogrammetrically processing the stored photographs (35, 55a-d), for producing a true-to-scale overall image (56) of the

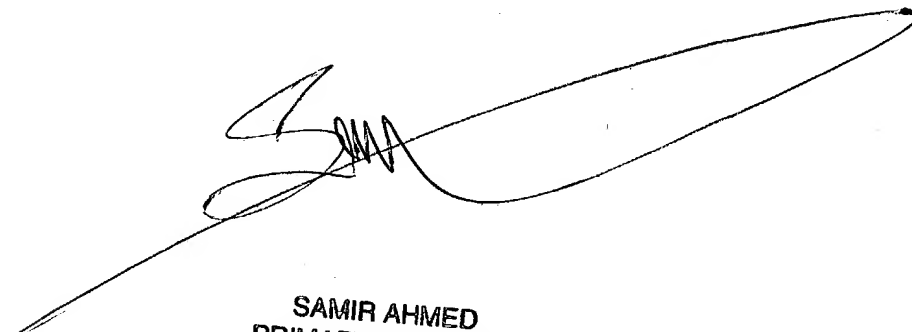
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workpiece (20, 30, 50) therefrom and for determining the contour of the workpiece (20, 30, 50) from the true-to-scale overall image.

15. (Original) The apparatus according to claim 14, wherein the reference markers are position-markers (41, 51).

16. (Original) The apparatus according to claim 14, wherein the reference marks length scales (43).

17. (Cancelled).



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